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(19) **United States**(12) **Patent Application Publication****Tajima et al.**(10) **Pub. No.: US 2003/0186027 A1**(43) **Pub. Date:****Oct. 2, 2003**(54) **MICRO-PASSAGE ELEMENT USED FOR FLUID ANALYSIS**(75) Inventors: **Nobuyoshi Tajima**, Tokyo (JP); **Etsuo Shinohara**, Tokyo (JP); **Seiji Kondo**, Hachioji-shi (JP)

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FRISHAUF, HOLTZ, GOODMAN & CHICK, PC**767 THIRD AVENUE****25TH FLOOR****NEW YORK, NY 10017-2023 (US)**(73) Assignee: **OLYMPUS OPTICAL CO., LTD.**, Tokyo (JP)(21) Appl. No.: **10/418,250**(22) Filed: **Apr. 17, 2003****Related U.S. Application Data**

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The micro fluid passage element of the present invention has the structure in which the first quartz glass substrate which is insulative and flat, and the second quartz glass substrate joining together while interposing the laminated film consisting of a polysilicon thin film, an alkali-ion containing glass layer such as borosilicate glass thin film, and a polysilicon thin film, the surfaces of the pair of quartz glass substrates, which are located on a joining side, being made to face each other, and the micro fluid passage element has a piecing hole serving as a fluid passage for instrumental analysis, formed along the laminated film and a direction of a surface of at least one of the pair of the quartz glass substrate, made at an arbitrary depth.

